

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

Claim 1 (Cancelled).

Claim 2 (Currently Amended): In a networking environment comprising one or more network processing (NP) devices for routing data packets from a source to a destination via a switch fabric, with each network processing device supporting a number of interface ports, a The system for ensuring packet routing in accordance with Claim 1, ~~wherein said routing mechanism implements~~ from one network processing device to a target network processing device via a target interface port, said system comprising:

mechanism for tracking operational status of each network processor device and operational status of destination ports supported by each said network processor device in said system, said operational status being maintained at each network processing device;

said network processor devices including mechanism for determining the operational status of a target network processing device and target interface port of a current packet to be routed prior to said routing,

routing mechanism for routing packets from source NP devices to destination NP devices and destination ports thereof in accordance with an Equal Cost Multi-Path ECMP protocol including implementing a next hop routing table for mapping a destination address associated with a packet to be forwarded to one or more next hop options in said networking environment, said routing mechanism routing said current packet to a target network processor

device and destination port when said target network processor device and destination ports thereof are determined as operational, and routing packets to another operational NP device and port thereof upon determination of non-operational target network processor device and destination port, whereby proper routing of packets is guaranteed with minimum packet lost.

Claim 3 (Currently Amended): The system for ensuring packet routing in accordance with Claim [[1]] 2, wherein each network processor device maintains a data structure receiving values from said tracking mechanism indicating status of said network processor devices, said determining mechanism implementing logic for comparing said received value against a first value indicating all NP devices are operational prior to routing of a current packet, and initiating routing of said packet to said target when said values match.

Claim 4 (Original): The system for ensuring packet routing in accordance with Claim 3, wherein said received value is a second value representing a particular NP device that is not operational, said determining mechanism implementing logic for comparing a bit representation of a target NP device of a packet to be routed against this received second value and initiating routing of said packet to another NP device when said target NP device is not operational.

Claim 5 (Currently Amended): The system for ensuring packet routing in accordance with Claim [[1]] 2, wherein each network processor device maintains a data structure receiving values from said tracking mechanism indicating status of said network processor devices, said determining mechanism implementing logic for comparing said received value against a first value indicating

all interface ports for said NP devices are operational prior to routing of a current packet, and initiating routing of said packet to said NP device and target port when said values match.

Claim 6 (Original): The system for ensuring packet routing in accordance with Claim 5, wherein said first value includes a set of mask bits and a set of bits representing said target destination port, said determining mechanism implementing bitwise logic for comparing said received value against said mask bit set and obtaining a first result, comparing said first result against said target destination port bits, and initiating re-routing of said packet to another destination port when said first result does not match said target destination port bits.

Claim 7 (Original): The system for ensuring packet routing in accordance with Claim 5, wherein said data structure receives two values defining a range of NP devices that are not operational, said determining mechanism implementing logic for comparing a bit representation of a target NP device of a packet to be routed against said each of said two values defining said range, and initiating re-routing of said packet to another destination port outside said range when said bit representation of said target NP device falls within said two values.

Claim 8 (Cancelled).

Claim 9 (Currently Amended): ~~The A~~ method for ensuring packet routing in accordance with Claim 8, ~~wherein said~~ a networking environment comprising one or more network processing (NP) devices for routing data packets from a source to a destination via a switch fabric, with each network processing device supporting a number of interface ports, said method comprising the steps of:

a) tracking operational status of each network processor device and operational status of destination ports supported by each said network processor device in said system, and maintaining said operational status at each network processing device;

b) determining the operational status of a target network processing device and target interface port of a current packet to be routed prior to said routing at a current NP device; and,

c) routing [[of]] packets from source NP devices to destination NP devices and destination ports thereof [[is]] in accordance with an Equal Cost Multi-Path (ECMP) protocol, said routing step c) including ~~ECMP protocol adapted for mapping~~ a destination address associated with a packet to be forwarded to one or more next hop options in said networking environment, wherein a current packet is routed to a target network processor device and destination port when said target network processor device and destination ports thereof are determined as operational, or being routed to another operational NP device and port thereof upon determination of non-operational target network processor device and destination port, whereby proper routing of packets is guaranteed with minimum packet lost.

Claim10 (Currently Amended): The method for ensuring packet routing in accordance with Claim [[8]] 9, wherein said step of maintaining said operational status includes maintaining a data structure for receiving values determined from said tracking step indicating status of said network processor devices.

Claim 11 (Original): The method for ensuring packet routing in accordance with Claim 10, wherein said determining step b) includes the step of implementing logic for comparing a received value against a first value indicating all NP devices are operational prior to routing of a

current packet, and initiating routing of said packet to said target when said values match.

Claim 12 (Original): The method for ensuring packet routing in accordance with Claim 11, wherein said received value is a second value representing a particular NP device that is not operational, said determining step b) including the step of implementing logic for comparing a bit representation of a target NP device of a packet to be routed against this received second value and initiating routing of said packet to another NP device when said target NP device is not operational.

Claim 13 (Original): The method for ensuring packet routing in accordance with Claim 10, wherein said determining step b) includes the step of implementing logic for comparing said received value against a first value indicating all interface ports for said NP devices are operational prior to routing of a current packet, and initiating routing of said packet to said NP device and target port when said values match.

Claim 14 (Original): The method for ensuring packet routing in accordance with Claim 13, wherein said first value includes a set of mask bits and a set of bits representing said target destination port, said determining step b) including the step of implementing bitwise logic for comparing said received value against said mask bit set and obtaining a first result, comparing said first result against said target destination port bits, and initiating re-routing of said packet to another destination port when said first result does not match said target destination port bits.

Claim 15 (Original): The method for ensuring packet routing in accordance with Claim 13,

wherein said data structure receives two values defining a range of NP devices that are not operational, said determining step b) implementing logic for comparing a bit representation of a target NP device of a packet to be routed against said each of said two values defining said range, and initiating re-routing of said packet to another destination port outside said range when said bit representation of said target NP device falls within said two values.

Claim 16 (Cancelled).

Claim 17 (Currently Amended): The A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for ensuring packet routing in a networking environment comprising one or more network processing (NP) devices for routing data packets from a source to a destination via a switch fabric, with each network processing device supporting a number of interface ports, said method steps comprising: in accordance with Claim 16, wherein said

a) tracking operational status of each network processor device and operational status of destination ports supported by each said network processor device in said system, and maintaining said operational status at each network processing device;

b) determining the operational status of a target network processing device and target interface port of a current packet to be routed prior to said routing at a current NP device; and,

c) routing [[of]] packets from source NP devices to destination NP devices and destination ports thereof [[is]] in accordance with an Equal Cost Multi-Path (ECMP) protocol, ~~said routing step c) including~~ said ECMP protocol adapted for mapping a destination

address associated with a packet to be forwarded to one or more next hop options in said networking environment, wherein a current packet is routed to a target network processor device and destination port when said target network processor device and destination ports thereof are determined as operational, or being routed to another operational NP device and port thereof upon determination of non-operational target network processor device and destination port, whereby proper routing of packets is guaranteed with minimum packet lost.

Claim 18 (Currently Amended): The program storage device readable by a machine in accordance with Claim 16 17, wherein said step of maintaining said operational status includes maintaining a data structure for receiving values determined from said tracking step indicating status of said network processor devices.

Claim 19 (Original): The program storage device readable by a machine in accordance with Claim 18, wherein said determining step b) includes the step of implementing logic for comparing a received value against a first value indicating all NP devices are operational prior to routing of a current packet, and initiating routing of said packet to said target when said values match.

Claim 20 (Original): The program storage device readable by a machine in accordance with Claim 19, wherein said received value is a second value representing a particular NP device that is not operational, said determining step b) including the step of implementing logic for comparing a bit representation of a target NP device of a packet to be routed against this received second value and initiating routing of said packet to another NP device when said target NP

device is not operational.

Claim 21 (Original): The program storage device readable by a machine in accordance with Claim 20, wherein said determining step b) includes the step of implementing logic for comparing said received value against a first value indicating all interface ports for said NP devices are operational prior to routing of a current packet, and initiating routing of said packet to said NP device and target port when said values match.

Claim 22 (Original): The program storage device readable by a machine in accordance with Claim 21, wherein said first value includes a set of mask bits and a set of bits representing said target destination port, said determining step b) including the step of implementing bitwise logic for comparing said received value against said mask bit set and obtaining a first result, comparing said first result against said target destination port bits, and initiating re-routing of said packet to another destination port when said first result does not match said target destination port bits.

Claim 23 (Original): The program storage device readable by a machine in accordance with Claim 18, wherein said data structure receives two values defining a range of NP devices that are not operational, said determining step b) implementing logic for comparing a bit representation of a target NP device of a packet to be routed against said each of said two values defining said range, and initiating re-routing of said packet to another destination port outside said range when said bit representation of said target NP device falls within said two values.